

ATARI PROGRAM EXCHANGE

Program Submission Form

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PRODUCT REVIEW

FOR ATARI PROGRAM EXCHANGE USE ONLY

Date received _____ Submission number _____
Date accepted _____ Date rejected _____
Program No. APX- _____ Reason _____
Documentation rating _____
Reviewer _____

(PLEASE PRINT OR TYPE)

Program title KNIGHTSOILTM
(Make this as generic as possible to avoid trademark complications.)

File name _____

☒ New program or ☐ Revision (by original author only) to program number APX- _____

Submitted on ☐ cassette ☒ single-density diskette ☐ double-density diskette.

Program language ASSEMBLY

Author's name DOUGLAS CROCKFORD
(Please print your name as you want it to appear in the software catalog.)

Street [REDACTED]

City IRVINE State/Country CA Zip code/mail code 92714

Day telephone number (714) [REDACTED] Social Security number [REDACTED]

May users contact you if they need help in using your program?
(Your agreement to be contacted will be indicated in the software catalog.)

☒ yes ☐ no ☒ by mail ☐ by telephone

Software category (check one)

- ☐ Business and Professional Applications
- ☐ Personal Finance and Record Keeping
- ☐ Personal Interest and Development
- ☐ Education
- ☒ Entertainment
- ☐ System Software

Intended user:
Age range 12 and up

Required skills _____

Minimum RAM required (fill in at least the RAM size for the medium on which you submit your program; fill in the other minimum RAM sizes if you have this information):

_____K RAM (cassette) 32 K RAM (single-density diskette)

_____K RAM (double-density diskette)

Referring to the list below, check *all* the required and optional accessories. Be sure to indicate when a user has a *choice* of accessories.

Req'd. Opt.

- | | | |
|-------------------------------------|--------------------------|----------------------------------|
| <input type="checkbox"/> | <input type="checkbox"/> | ATARI Assembler Editor Cartridge |
| <input type="checkbox"/> | <input type="checkbox"/> | ATARI 410 Program Recorder |
| <input checked="" type="checkbox"/> | <input type="checkbox"/> | ATARI 810 Disk Drive |
| <input type="checkbox"/> | <input type="checkbox"/> | ATARI 815 Disk Drive |
| <input type="checkbox"/> | <input type="checkbox"/> | ATARI 820 Printer |
| <input type="checkbox"/> | <input type="checkbox"/> | ATARI 822 Printer |
| <input type="checkbox"/> | <input type="checkbox"/> | ATARI 825 Printer |
| <input type="checkbox"/> | <input type="checkbox"/> | ATARI 850 Interface Module |
| <input type="checkbox"/> | <input type="checkbox"/> | ATARI 830 Acoustic Modem |
| <input checked="" type="checkbox"/> | <input type="checkbox"/> | ATARI Joystick Controller(s) |

Req'd. Opt.

- | | | |
|--------------------------|--------------------------|--------------------------------------|
| <input type="checkbox"/> | <input type="checkbox"/> | ATARI Paddle Controller(s) |
| <input type="checkbox"/> | <input type="checkbox"/> | ATARI Keyboard Controller(s) |
| <input type="checkbox"/> | <input type="checkbox"/> | ATARI Light Pen |
| <input type="checkbox"/> | <input type="checkbox"/> | Pilot |
| <input type="checkbox"/> | <input type="checkbox"/> | Fig FORTH (APX) |
| <input type="checkbox"/> | <input type="checkbox"/> | Other software (list these) _____ |
| | | |
| <input type="checkbox"/> | <input type="checkbox"/> | Other accessories (list these) _____ |
| | | |

For programs on diskette, list the names of all files and the function of each:

There are no "files" on the game disk. It is self loading.
A second disk is supplied, containing source and documentation. An annotated directory listing is included.

Loading instructions:

Plug in the joystick. Put the game disk in drive 1. Turn on the console. No cartridges are needed.

Check that you have included your:

- ☒ Program cassette/diskette
- ☒ Program Submission Form
- ☒ Software Submittal Agreement (2 signed copies)
- ☒ User instructions
- ☒ Source code in machine-readable form

Mail your materials to:

THE ATARI PROGRAM EXCHANGE
P.O. Box 427
1196 Borregas Avenue
Sunnyvale, California 94086

Introduction

KnightsoilTM is a mystical land. You are a knight, a stranger to this place, on a quest to find the Holy Grail. You will face many dangers, including a fire-breathing dragon and giant spiders.

This game is loosely based on the King Arthur legend. This game involves no typing or reading. It makes extensive use of graphics and sound effects. This is a complex game. You should read this manual first.

Required Accessories

32K RAM
ATARI 810 Disk Drive
ATARI Joystick Controller

Legendary Background

The story of the quest for the Holy Grail is steeped in early Christian mysticism. It was the custom of Arthur and the Knights of the Round Table to not sit down to dinner on the Pentecost until a miracle occurred. One year, the miracles began with the appointment of Sir Galahad, son of Lancelot and the last descendant of Joseph of Arimathea, to the Round Table at the seat called Siege Perelous.

That night, after evensong, there was a great sound of thunder and a blinding light. The Holy Grail was carried through the hall by a maiden. It was covered with white samite so no one could see it. It had the fragrant odor of spices. Food and drink of each's desire appeared. And then the Grail was gone.

Sir Gawain and many other knights swore that they would depart the next day on a quest to find the Grail. This made Arthur very sad, for he knew that many good knights would not return, and that perhaps the Fellowship of the Round Table would be broken.

After many miraculous adventures, Sir Galahad, Sir Percivale, and Sir Bors, by virtue of their great virtue, succeeded in the mysterious quest. Galahad's soul was taken by angels, and a hand appeared also taking the Grail and the Spear to heaven. Sir Percivale died about a year later. Sir Bors returned to Camelot and reported Sir Galahad's last words: "Remember how ephemeral is this earth!"

For the Spear was the one that had pierced Jesus Christ. The Grail was the cup in which drops of His blood had been collected. Both had been taken to Britain by Joseph of Arimathea. Or so the story goes.

Getting Started

Turn on your disk drive and insert the game diskette. Turn the console on. No cartridges are needed. A joystick should be plugged into the first jack. You might want to turn up the brightness on color TV sets. (The background colors are fairly dark for the benefit of monochrome TV's.)

After a few seconds, Sir Gawain's speech will be displayed. When the program is done loading, the White Chapel will be displayed, showing that the game has begun. To start a new game at any time, press SYSTEM RESET and a fresh copy of Knightsoil will be loaded.

There is a simplified form of the game. To select it, press SELECT at any time. This will unlock the three doors. The path to the Grail will begin at the White Castle. The White Chapel will turn black to indicate that you selected the simplified form.

Movement

Use the joystick in the usual manner to move your knight. You'll discover that you can move more easily on roads and meadows than through forests and up stairs. Some surfaces are deadly (like deep water). Some, like walls and mountains, cannot normally be passed through. Beware of walls, for they are enchanted and may pull you in.

There are portals in various places. If you move through one, you will be transported to another place. The four most important portals are in the mountains, in the forest, in the Black Castle, and in the White Castle.

In some places there are secret passages. You can't see them, but you can move through them. The problem of course is finding them.

Helpful Objects

There are several objects scattered about the Knightsoil that may help you in your quest. To pick one up, simply bump into it. To drop it, press the joystick button and move away from it. You can carry only one object at a time.

SWORD. The sword will allow you to fight monsters, battle knights, and frighten insects. It works best when you keep your foes to your left or right.

ACTION WEDGE. This wedge will help you run your fastest and jump your highest.

MAGIC RING. This magic ring will protect you from monsters and handgrenades.

HOLY HANDGRENADE OF ANTIOCH. Three seconds after you drop the handgrenade it will explode. It will break down walls and kill anything in the room. It will not open locked doors. It should not be used near portals because it might close them forever.

KEYS. There are three keys which will unlock the three locked doors. The keys are color coded to the doors they open.

Dangers

Your quest through Knightsoil is fraught with peril. Should you die, you will be returned to the White Chapel and anyone or thing you may have killed is also resurrected.

There are occasional traps around the place which should be avoided. These will remain in the same place from game to game. The knights and monsters are more mobile.

KNIGHTS ERRANT. There are knights travelling about looking for challenges. They know nothing of your quest, but they know of your great skill as a knight and want to test themselves by fighting you to the death. They are fair knights, and won't fight you unarmed.

DRAGON. The dragon flies, breathes fire, and has sharp teeth and claws.

RABBIT. A creature so foul and cruel that no man has fought with it and lived.

SPIDERS. They lurk in close spaces and in sticky webs.

MONSTER MOTH. It was a graveyard smoth.

START. You will die if you press the START key.

Winning

Set your goals before you start. Swear to do one or more of the following (or make up a goal of your own).

- > To find the three keys
- > To find the Holy Grail
- > To return the Grail to the White Chapel
- > To not press SELECT
- > To do it in one life
- > To do it in _____ (some fixed amount of time)
- > To slay all the monsters

Whether or not you meet your goal is a matter of your own honor as a knight. The program will neither judge you nor reward you with points.

Tournament Play

When playing with two or more players, first agree on goals. One player plays a complete game, and then another. The winner is the one to meet the goals in the smallest number of lives (with ties being settled by the smallest amount of time), or in the smallest amount of time (with close times being settled by the smallest number of lives).

Another way is to take turns during the same game. After each life ends (or after an agreed upon period of time), hand the joystick to the other player. The winner is the player holding the joystick at the attainment of the goal.

Backup Copies

Backup copies can be made with the DOS II command to (J) Duplicate Disk.

Further Reading

The definitive source on Arthur is Sir Thomas Malory's Le Morte d'Arthur. It was published by William Caxton in 1484. It has been rendered for modern readers in at least two newer editions, one by Robert Graves (from which I took Sir Gawain's speech) and another, The Acts of King Arthur and His Noble Knights by John Steinbeck. Like all great stories, Arthur is told and re-told. Perhaps the finest re-telling is The Once and Future King by T. H. White. Perhaps the most inventive re-telling is Mark Twain's A Connecticut Yankee in King Arthur's Court.

The other source is Sir Gawain and the Green Knight. It may have been written around 1400. Its author is unknown. There is a wonderful verse translation by J. R. R. Tolkien.

There are similar works of more recent origin which are also magical and heroic. J. R. R. Tolkien was also author of the Middle Earth cycle. The best introduction to Middle Earth is The Hobbit. Also very good is the Earthsea Trilogy, beginning with A Wizard of Earthsea by Ursula K. Le Guin.

There have been many recent movies in this genre. Among these are Dragonslayer, John Boorman's Excalibur, George Romero's Knightriders, and Monty Python and The Holy Grail. Knightriders is about people in the 80's trying to live by the standards of the Round Table. The Monty Python film, while being very funny, is probably closer to the truth of the real Arthur than is Excalibur.

One final note: Most of what we know about Arthur comes from works written a thousand years later. When we think about the Knights of the Round Table, we think of the armor and chivalry. But those were invented centuries after Arthur. Malory gave his work about a great English king a French title. That may have been stylish after the Norman invasion, but would have been insulting in Arthur's day.

Designer's Notes (You don't need to read this section)

I developed Knightsoil as a reaction to the many verbose Adventure and Dungeon games. Being 73% wounded seems dehumanizing. Also, I wanted to present a sense of exploring a strange land. There may be no undiscovered places in this world, but we can invent them, and computers can make them real. In order to encourage experimentation and discovery, I've limited the helpfulness of these instructions. If you don't agree with my decision, then write me and I'll try to fix you up with some more clues.

I hope that you find the game educational in at least three aspects. First, it gives drill in using a joystick, which is rapidly becoming an essential skill. Second, I hope to encourage an interest in reading and comparative history. Third, the game gives practical experience in pointer manipulation and list processing, which are two names for one of the most important concepts in computer science. (Each screen is actually a node in a network, each linked to one to five other nodes. Moving through the game can be viewed as a tree-traversal.)

My concept of the game changed as I developed it, largely on the advice of the Atari 800. There are some things it does poorly, but it does other things so incredibly well that no one notices its limitations. The key to developing programs on this machine is to understand all the things that it really does well, and build your game around them. Often, an interesting "rule" will exist only to hide something the machine can't do, but you don't mind because the rule makes the game more interesting. I believe this is also true for arcade games like Centipede and Missile Command.

I made the backgrounds using what Atari Basic calls GR.3 for a couple of reasons. First, of all the graphics modes it uses the smallest amount of memory, allowing me to stuff 96 different rooms and a program into 32K. Also, the amount of memory for a screen in GR.3 is slightly less than a page. The 6502 loves dealing with page-sized objects.

You'll notice that I "flip" from one room to another instead of scroll. Scrolling is easy to do on the 800 and looks great. I resisted the temptation to use it because I wanted to have the flavor of a haunted house game we used to play called "Spook-in-the-dark." Flipping into a room is more like having walls and doors; You can't really see what's in the room until you get there. With scrolling, you might get warning.

All of the objects that move around are done with player/missile graphics. The program is built around a simple multi-tasking operation system. Each object is directed by its own independent program. I used two display list interrupts to create a 120 Hz clock for scheduling. The explosion effect is done simply by using the missiles as a fifth player, and then moving the missiles apart.

The program took about four months. I did it on an 800 with 48K and two disk drives using the Assembler/Editor cartridge.

If you have anything to say about Knightsoil, I'd like to hear from you. Write to:

Douglas Crockford
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Irvine, CA 92714